

9.—Contribuciones Florae Australiae Occidentalis XIII

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Descriptions are given of 35 species previously undescribed. They have been selected from a large number of plants awaiting description because of their more than usual interest. The *Actinostrobus* has for long been confused with *A. pyramidalis*, and is by far the most widespread species of this endemic genus; the *Casuarina*, a plant of unusual habit within the genus is of very localised occurrence. The seventeen Proteaceae have been included since they will be incorporated in that portion of the "Flora of Western Australia" nearing completion. During the preparation of this work it was found that considerable confusion existed in the genus *Dryandra*, of which five new species are now described. Of the species of *Banksia*, one (*B. pilostylis*) has been confused with *B. media*, while the species of *Grevillea* are from localities previously little known botanically.

Two species of the Papilionaceae are included because they belong to the toxic sections of *Oxylobium* and *Gastrolobium* the latter being already a confirmed toxic species, and the former will prove to be so.

In the Myrtaceae two species of *Eucalyptus* are described; one from Kimberley apparently has a restricted range while the other species has been confused with a form of *Eucalyptus eudesmioides*, but with which it has no true affinity. One new *Regelia* is described, and the names of two well-known species have been changed in accordance with International Rules. The two species of *Wehllia* are perhaps the most attractive of the genus, and both are from the Eremaean Province. The species of *Darwinia* bears a strong affinity to a South Western species, but grows in the Eremaea.

In the Chloanthaceae are three spectacular plants, a *Lachnostachys*; a *Newcastilia* with extraordinary foliage, and also of tall erectly branched habit, its golden-tomentose leaf undersurfaces making it at once a plant of singular attractiveness; and thirdly the most showy of the species of *Pityrodia*, named *P. spectabilis*, a species in danger of extinction owing to agricultural extension in the area in which it grows.

In the Labiatae is a small compact rare *Prostanthera* with pale blue flowers.

In the Goodeniaceae, a cushion-like *Leschenaultia* with pale blue corollas and a white throat is described together with a magnificent biennial *Goodenia* with long spike-like inflorescences, the flowers almost hidden in the dense silk of the spikes.

Leptospermum sericeum, for many years regarded as synonymous with *Kunzea sericea*, has been restored as a valid species; it has been included for its undoubted horticultural value, and is probably the largest-flowered and most attractive species of this genus in Australia.

CUPRESSACEAE

Actinostrobus arenarius C. A. Gardn. sp. nov.

Frutex 2-5 m. altus, ramis plusminusve divaricatis, rigidiusculis, ramulis triquetris; folia ternata, squamiformi-triquetra, ad basin adnata, sursum patula, parte libera late ovata, acuta. Amenta mascula ignota. Strobili foeminei manifeste pedicellari, pedicelli squamis abbreviatis appressis obtecti; strobilus ovoideo-globosus, breviacuminatus, squamis exterioribus vacuis, tenuibus, parum auctis, arcte appressis, interiores gradatim majoribus, ovatis, marginibus

tenuis; squamis fertilibus induratis, ovato-lanceolatis, in apicem attenuatae erectis; semina magna, pauca, 2- vel 3- alata, luteo-brunnea.

Hab. in regionibus interioribus arenosis; stationes maxime australes a flumine Murchison usque oppidem Bruce Rock valde insignis, occidentalem versus Darling Range non transgrediens; frequenta occurrens in distr. Irwin et Avon in arenosis apertis. Typus prope Tammin, Gardner n. 610. Novem. 1920.

Formerly included with *A. pyramidalis* Miq. this species remains distinct in the more glaucous foliage and cones, the fertile scales of which have erect and somewhat acute, not incurved apices, they are also larger, and glaucous, the leaves of *A. arenarius* are ovoid-deltoid in the free portion, whereas in *A. pyramidalis* they are ovate and more spreading.

Leaves mostly 2 mm. long, the free part slightly less than 1 mm.; cones 1.5-1.6 cm. long, 1.6 cm. broad; seeds 1.1 cm. long.

CASUARINACEAE

Casuarina ramosissima C. A. Gardn. sp. nov.

Frutex probabiliter dioicus, usque 1 m. altus, ramis ramulisque subconforibus, numerosis, verticillato-ramosis, ramulis 2-3- articulatis, cinereo-tomentosis, fere rigidis, patentibus, glaucis, profunde sulcatis demum glabris; internodia (basalia excepta) 1-2 cm. longa, dentes 4, erecti, deltoides, obtusi, ciliati, apice nigri. Amenta mascula ignota. Strobilis sessilis, verticillatis vel oppositis, breviter cylindricis vel ovoideo-cylindricis, basi truncatis, circ. 1.5 cm. longis et 1 cm. latis; bractea magna late ovata, dorso rufo-tomentosa, apicem versus in appressicem contracta, apice late ovata, atro-fusca marginibus fimbriolata; bracteolae basi connatae, vix exsertae, dorso lato verrucoso areolatae et dense fibroso-piloso; achaenia atro-fusca, crassa vel turgida et breviter pilosa, ala obliqua, vix scariosa.

Hab. in distr. Avon prope Dandarragan, in arenosis glareosis in fruticulosis, Gardner 9013, (TYPUS).

In its compound branchlets this species is related to *C. microstachya* Miq. and *C. Drummondiana* Miq., all the remaining species having undivided branchlets. From *C. microstachya* it differs in its taller stature, longer ashy-tomentose branchlets, very different bracts, and sulcate, not tetragonal internodes. From *C. Drummondiana* it can be distinguished by the much longer, not glabrous internodes, larger fibrous-hairy bracteoles and darker coloured, less hairy and shorter winged achenes.

PROTEACEAE

Conospermum sericeum C. A. Gardn. sp. nov.

§*Euconospermum* Benth.

Fruticulus vel suffrutex habitu simile *C. coeruleum*, cauli scapiformi, basi folioso sericei, superne aphylli, dichotomoso-ramoso vel scapi-

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formi; folia erecta, lingulata elongata, usque 12 cm. longa, uninervia, nervoso-marginata, glabra, infra medium attenuata in petiolum basi dilatata, acuta apicibus ustulata.

Spicae breves, fere in capitulum, contractae, multiflorae, longe pedunculatae folia longe superantes et quasi corymbum floriferum pulchrum constituentes; bracteae florigerae lanceolatae basin versus attenuatae, in apicem acuminatae productae cymbiformae, subtus et marginibus sericeis, pallide coeruleae, perianthio subaequales.

Perianthium 4 mm. longum, pulchre coeruleum, tubum glabrum, limbi labium superius integrum, leviter concavum dorso breviter hirsutum, acutum, marginibus eleganter ciliatum; labium inferior profunde trilobum, lobi anguste lanceolati, acuti, marginibus longe ciliati, dorsale pilosi.

Hab. in distr. Irwin prope flumen Hill juxta Badgin-garra in arenosis apertis, flor. m. Decembri. *F. Lullfitz* n. 2156 (TYPUS).

The affinity of this species is with *C. coeruleum* Meissn. and *C. debile* Kipp. differing from the former in the narrow cymbiform not woolly bracts and the densely ciliate lobes of the lower lip, and from the latter in much longer obtuse leaves, and the indumentum of the flowers.

Lambertia orbifolia C. A. Gardn. sp. nov.

Frutex 2-2.5 m. altus, ramis ramulisque erectis, villosis-tomentosis pilisque longis intermixtis, pilis patentibus. Folia opposita, erecto-patula, sessiles, orbiculares, integra, basi cordato-orbiculares, subcucullata, conspicue penninervosa et reticulata, 2 cm. longa, 1.8 cm. lata. Involucrum 4-6 flori, axillares vel ramulis terminati; bracteae exteriores oblongo-ovatae valde obtusae vel truncatae, dorso dense tomentosae, interiores multo longiores sed similes.

Perianthium rubrum, 4.7 cm. longum; segmenta basin attenuata, superne dilatata et leviter curvata, sursum contracta et spiraliter revoluta (obtorta) et hirsuta, limbum angustum, erectum, breviter hirsutum, apicibus breviter barbatis; squamae hypogynae lineari-lanceolatae, acuminatae, liberae. Ovarium longe et dense pilosum; stylus filiformis.

Hab. in distr. Stirling haud procul King George's Sound, juxta flumen King, in arenosis glareosis in fruticetis, fl. m. Junio, leg. A. J. Gray (TYPUS).

Differs from all other species in the orbicular cordate leaves, but closest to *L. inermis* R. Br., from which it differs in the larger hairy perianth, the narrower truncate bracts, and much broader sessile leaves.

Grevillea globosa C. A. Gardn. sp. nov.

§ *Plagiopoda*.

Frutex erectus usque ad 2 m. altus, ramis ramulisque erectis, ramulis juvenilibus sericeo-pilosus. Folia erecta, pinnatisecta, 7-9-fida, lobis tenuis sed rigidis, anguste linearia vel subteretia, leviter pubescentibus, subtus bisulcatis, demum glabrescentibus, glaucis.

Racemi terminali, breviter pedunculati foliis multo breviores; pedunculi rufo-tomentosi; pedicelli 4 mm. longi; sericei. Flores zygomorphicum racemo terminali. Perianthium rubrum, basi dilatatum, segmenta perangusta, lineari-oblonga, extus sparse sericeo-villosa, sursum

attenuata, sub limbo globosa revoluta, intus glabra, extus in partibus inferioribus sparse sericeo-villosa, limbo albo-villoso. Torus obliquus; glandula hippocrepiformis, plana; ovarium dense villosum, stipite ovario longiore; stylus 17 mm. longus, parte inferiore sparse hirsutus, ceterum glaber, curvatus, disco stigmatico orbiculari, laterali terminatus. Fructus ignotus.

Hab. in distr. Austin, Pindar 32 km. septentrionalem versus juxta confragosos lateritos, fl. m. Januario. *F. Lullfitz* n. 2241 (TYPUS).

The affinity of this species is with *G. tenuiloba* C. A. Gardn., from which it differs in the much longer leaves with more numerous segments, the short \pm globose racemes and conspicuously silky perianth-limb.

Grevillea ninghanensis C. A. Gardn. sp. nov.

Frutex nanus, usque ad 20 cm. altus, crebre divaricato-ramosa, ramulis appresse-pubescentibus. Folia fasciculata, subsessilia, in ramulis patulis disposita, coriacea, viridia, linearia, 1-1.6 cm. longa, mucronato-pungentia, basi sensim attenuata vel subsessilia, marginibus valde revolutis, glabra, supra convexa et laevia, subtus bisulcata.

Racemi axillari, laxissimi, secundi, 2-4 cm. longi, rhachis sparse pubescentibus, pedicelli 2-3 mm. longi, appresse-sericei, perianthii tubus 10-11 mm. longus, sub limbo parvo globoso revolutus, segmenta perangusta, basi dilatata, extus sparse appresse-sericea, intus parte media sparse appresse-sericea, superius glabra; torus obliquus, fere orbiculatus; ovarium dense sericeum, stipitatum; stylus circ. 12 mm. longus; basin versus crassus, glaber, apice recurvatus, disco stigmatico orbiculari, laterali terminatus; glandula semilunaria, parvum prominens.

Hab. in distr. Austin, prope Ninghan, in acacietis in argillaceis fl. m. Aug. *Gardner* n. 12502 (TYPUS).

This species is related to those of the Section *Plagiopoda* which have entire leaves with closely revolute margins, and loosely racemose flowers. It differs from *G. deflexa* in having narrower, shorter and more closely revolute leaves, erect racemes, and shorter styles. It is also a much smaller shrub with the branches close to the ground.

Grevillea fulgens C. A. Gardn. sp. nov.

§ *Plagiopoda* Eenth.

Frutex 90 cm. altus, ramis divaricatis vel erectis, subflexuosis, ramulis saepe erectis, juvenilia pubescentia.

Folia erecto-patentia, linearis, basi attenuata, breviter petiolata, obtusa, rigide mucronulata, 7-8 cm. longa, integra (vel rarius 2-3 loba lateralibus nascentes) marginibus arcte revolutis, supra glabra, unisulcata, subtus bisulcata.

Flores zygomorphae, in axillis foliorum singuli vel bini, et ramulis axillaribus terminantae; pedunculi appresse villosiusculi circ. 5-7 mm. longi, bracteati, bracteae exteriores lanceolatae, breviter, interiores magnae, 2, obovato-cuneatae truncatae, vel breviter dentatae, mucronatae, dorso ferruginoso-tomentosae, sursum glabrae, alabastri includens; pedicelli rufo-hirsuti, 5-6 mm. longi.

Perianthium scarlatinum lilacino-suffusum, sub limbo globoso recurvum, torus obliquus; segmenta basi dilatata, extus (limbo excepta)

glaber, tubus parte basali extus sparse hirsuta, cetera glabrus; limbus apicem versus sparse hirsutus; glandula hippocrepiformis; ovarium stipitatum, dense albo-pilosum, stipite ovario paulo brevior; stylus crassus, fere rectus, circ. 2 cm. longus, laxe et appresse pilosus, disco stigmatico orbiculare, laterali.

Fructus rectus, ovoideo-oblongus, glabrus, 1-2 cm. longus styli longe persistens basi coronatus.

Hab. in distr. Eyre montem Desmond ad collis latera petraea, in fruticulosus densus, fl. m. Aug-Septem. *Gardner* 14070 (TYPUS) etiam 13718, 12883.

Although the position of the torus is that of the species of the Section *Plagiopoda*, it has no close affinities within this Section, nor with the species of the Sect. *Hebegyne*. It has the bracts, leaves and fruit of *G. bracteosa* Meissn. but is otherwise unrelated.

Grevillea candelabroides C. A. Gardn. sp. nov.
§*Cycladenia*

Frutex vel arbor usque 5 met. alta; rami patenti vel erecti, primum pubescentes demum glabrescentes. Folia alterna, pinnatisecta, segmenta 8-9, lineari-filiformia, compressa, acuta, glauca, subtus bisulcata, 8-13 cm. longa, in toto usque 20 cm. longa.

Racemini numerosi, stricte erecti, in paniculam dispositae, breviter pedunculati, folia excedenti; pedunculi atro-purpurascenti, usque 5-6 cm. longi; pedicelli 4 mm. longi, glabri.

Perianthium extus glabrum, intus sub medio barbatur ceterum glabrum, tubum sub limbum revolutum; torus rectus; glandula hypogyna annularia, subcupulari, ovarium glabrum, longe stipitatum; stylus 8-9 mm. longus, glaber, disco stigmatico obliquo in truncatum coronatum attenuatum.

Fructus oblique ovoideus, compressus, sublaterali affixus, brunneus vel pallidus, saepe apice subulato curvatus (basi styli persistente) ad 1.3 cm. longus; semina subovalia, compressa, circ. 1 cm. longa, grisco-viridia, undique latius alata.

Hab. in distr. Irwin interiores, prope Mingenew et Indarra septentrionalem versus extendit ad super flumine Murchison, distr. Austin regionem invadit, in fruticetis fl. m. Decembri et Januario, *Gardner* 12312; in arenosis apertis prope Ajana *Gardner* 12062 (TYPUS).

The species is related to *G. leucopteris* Meissn., differing in the spruce-like compact habit, the strictly erect candelabra-like panicles of racemes which are both erect, the glabrous branchlets, almost sessile racemes which scarcely exceed the leaves, the glabrous and somewhat viscid fruit and the presence of an oblique truncated stigmatic cone. It flowers in summer, whereas *G. leucopteris* blossoms in September and October.

Grevillea Gordoniana C. A. Gardn. sp. nov.
§*Cycloptera*

Frutex elatus subarborescens usque 7 m. altus, ramis ramulisque erectis, ramulis appresse-pubescentibus.

Folia erecta, densa, sparsa, integra, rigida, teretibus, juvenilis rufo-tomentulosa, exsulca, breviter acuta vel mucronata, apicem ustulatum.

Panicula ampla, terminalis, speciosa, e racemis numerosis, breviter pedunculatis, densifloris, subglobosis, composita; pedunculi 3-6 mm. longi; pedicelli gracili, glabri, 6-7 mm. longi; bracteis

aurantiaco-tomentosis, obtusis, diu persistentibus, late ovatis, vel orbicularibusve, unguiculatis, erectis, intus glabris.

Perianthium luteum, 7-8 mm. longum, sub limbo globoso revolutum; torus rectus, cupulatus, segenta (valde inaequalibus) basi dilatata, extus glabra, intus parte basali dense barbata, superius glabra; glandula hypogyna cupulata; toro adnata; ovarium glabrum, stipitatum, stipite ovario longiore, glandula marginibus inserta; stylus 7-8 mm. longus, glaber, apice breviter recurvatis et disco stigmatico magno orbiculari terminatus, in centro umbonato.

Fructus elongatus, anguste-oblongatus, sinuatus, 2 cm. longus, obliquus, verrucosus et viscidus; semina lineari-sigmeidea, undique latius alata.

Crescit in district Austin flumen Murchison 40km. septentrionalem versus in lutoso arenosis in fruticetis, fl. m. Decem. *Gardner* 14273 (TYPUS).

It is difficult to place this anomalous species in any given Section of the genus. The lateral umbonate stigmatic disc is not in conformity with the Section *Cycloptera*, but the inflorescence being paniculate, and the cupular torus lined by the disc appear to warrant its retention with the Section. The peculiar fruits which do not freely emit the even more peculiarly shaped seeds are without parallel in the genus. The very short rachis and subumbellate inflorescence, the dehiscence of the perianth segments above the actual base of the perianth, and the orbicular tomentose bracts are certainly without parallel in the section *Cycloptera*, but the attachment of the ovary stipes to the disc margin make it impossible of insertion in the Section *Cycladenia*.

This remarkable plant commemorates the name of Mr. D. N. Gordon of Myall Park, Glenmorgan, Queensland, who has cultivated numerous Western Australian plants in his garden, and who was instrumental in providing the first specimens of this species through one of his collectors (Mr. A. J. Gray).

Grevillea Rogersoniana C. A. Gardn. sp. nov.
§*Anadenia*

Arbor vel frutex usque 8 m. alta, ramis erectis vel erecto-patentibus, crebo foliatis, ramulis teretibus.

Folia petiolata, oblongo-spathulata, basin versus sensim attenuata, integra vel cuneata et bi- vel triloba, lobis ovato-triangularibus, obtusis vel calloso-mucronatis, plana, laevia, glauco-viridia, trinervis vel quinquinervis, omnino glabra.

Racemi numerosi, densiflori et multiflori, in paniculis terminalibus dispositi, 7 cm. longi; pedunculi sparse appresso-sericei. Flores regulares, breviter pedicellati, pedicelli 1 mm. longi.

Perianthium roseum, 8.10 mm. longum, rectum, limbo anguste-elliptico, segmentis filiformis, basi haud dilatatis, extus et intus glabris; torus rectus; glandula hypogyna parva, semiannularia, parum prominens. Ovarium glabrum, stipitatum, stipite 2 mm. longum; stylus circ. 1 cm. longus conico-stigmatico recto, basi marginato.

Fructus ovoideo-globosus, dense resinoso-tuberculatus, mucronatus, leviter compressus, valvulis crustaceis. Semina 2, elliptico-hemispherica, alba, laevia, exalata, 1.5 cm. longa, 11-12 mm. lata.

Hab. in distr. Irwin septentrionalem versus ad Shark Bay, in arenosis fruticetis, fl. m. Aug. Septem. *Gardner* 13517 (TYPUS).

Affinity with *G. petrophiloides* Meissn., from which it differs principally in the greater size, more robust habit, the flat entire or simply lobed leaves, the lobes being broad and flat, also in the larger more verrucose fruits which, although viscid have much smaller resinous cavities and smaller tubercles than is the case with *G. petrophiloides*. *G. petrophiloides* sometimes has flat-leaf-segments, but these are always narrow and proportionately very much longer and always linear.

The species commemorates Mrs. W. Rogerson of Gosnells who first directed my attention to this handsome species.

Hakea tamminensis C. A. Gardn. sp. nov.

§*Euhakea* Benth.

Frutex horridus, 2 m. altus, crebo ramosus, ramis divaricato-ramosis et intricatis, ramulis tomentoso-villosis.

Folia alterna, lineari-teretia, divaricato-patentia, vel inferiores erecta, rigida, coriacea, stricta, glabrescentia, 5-6.5 cm. longa, basi non contracta, apice rigide pungentia.

Racemi ad umbellas redacti, axillari, multiflori; breviter pedunculati, foliis multo breviori; bracteae ovatae, glabrae, stipitatae; pedicelli 4 mm. longi, dense hirsuti. Floribus purpureis vel rubris.

Perianthium sub limbo parvo globoso revolutum, 4-5 mm. longum, segmenta lineari-oblonga, basi haud dilatata, extus sparse hirsuta, intus glabra. Torus parvus, rectus; glandula hypogyna erecta, hemisphaerico-truncata, parum prominens; stylus breviter exsertus, glaber, apicem versus incrassatus, disco stigmatico laterali terminatus.

Fructus valde obliquus, crassus, ovoideus, brevi crassique pedicellatus, 3.5 cm. longus, 2.5 cm. latus, gibbosus, prominenter et longitudinaliter cristatus et supra profunde sulcatus; semina obovata ala ovato-oblonga, secus marginem basique decurrente, hinc paulo valde atra rugulosa.

Hab. in distr. Avon prope Tammin in arenoso glareosis, fl. m. Julio-Aug. *Gardner* n. 11997 (TYPUS).

Affinity with *H. circumalata* Meissn., from which it differs principally in the densely hirsute pedicels and the cristate, deeply and broadly sulcate fruit.

Banksia larinica C. A. Gardn. sp. nov.

§*Oncostylis*

Frutex circ. 1 m. altus, ramis erecto-patentibus, ramulis cano-puberulis. Folia linearia, circ. 1.5 cm. longa, distincte petiolata, mucronata, supra viridia et laevia, marginibus arcte revolutis, subtus unisulcatis vel canaliculatis.

Spicae pedunculatae, ovoideo-globosae vel breviter cylindricae, 2.5-3 cm. longae; bracteae crassae, cuneatae, rufo-villosae, truncatae, apicibus albo-tomentosae.

Perianthium luteum, appresso-sericcum, sub limbo ellipsoideo reflexum, 1.3 cm. longum, limbo 3 mm. longo; stylus glaber tenuis sed rigidus sursum hamosus, perianthio multo longior

arcuatim exsertus, conico-stigmatico atro, brevi, exsulcato. Conus fructifer, 5 cm. longus, 8.5 cm. latus; folliculi lignei, glabri et prominentes, valde exserti, 3.3-3.5 cm. lati, marginibus tenuis et aliquando undulatis.

Hab. in distr. Darling prope flumen Moore et Beer-mullah, in arenosis depressis subhumidis, fl. m. Jun-Julio, *Gardner*, 12840 (TYPUS).

The affinity is with *B. nutans* R. Br., but the bracts are white-tomentose at the truncate tips, the cones erect, and the follicles are entirely different, being much exserted without any persistent perianths surrounding them, are much broader and with thin margins, entirely unlike those of any other species of the genus.

Banksia pilostylis C. A. Gardn. sp. nov.

§*Cyrtostylis* Benth.

Frutex 2-3 m. altus, ramis ramulisque erecto-patentibus, ramulis cano-tomentosis.

Folia sparsa, petiolata, patentia, linearia, truncata, remote serrato-dentata, basi attenuata, 9-12 cm. longa, 12-15 mm. lata, dentibus rigidis, acutis marginibus recurvis, supra laevia glabra, nitentibus, subtus costato-reticulata lacunis albo-tomentosis, tantum conspicuis punctata, venulis glabratis.

Spicae ramis terminatae, cylindricae, 5-10 cm. longae, erectae, densiflorae.

Perianthium pallide luteum in vetulis demum luteo-brunneum, dense villosum; limbo elliptico, acuto, densissime villosa, limbo obtuso, 4 mm. longo, apicibus ipso glabro; stylus arcuatus, rigidus, laxe pilosus, perianthium paulo excedens, cylindrico-stigmatico vix latiore, brevo, sulcato terminatus.

Folliculi transversi, glabri, obtusi, rufo-brunnei, cum pallide luteo maculati, 2 cm. lati, dorso convexi.

Hab. in distr. Eyre in arenosis inter flumina Oldfield et Young septentrionalem versus ad collibus "Fitzgerald Peaks" in arenosis dunosis fruticetis, etiam prope Starvation Boat Harbour, fl. m. Oct. *Gardner* 12149 (TYPUS).

The fact that this species is so common within the area given above, suggests that it has not been overlooked, and must have been seen and collected by Baxter and Maxwell. It has a certain resemblance to *B. media* R. Br., but the leaves are much longer and more white underneath, and the spikes are also narrower and longer. The hirsute style is quite distinct from *B. media*. It is possible that Benthain included this species with *B. media* notwithstanding the difference in shape, size and indumentum of the lower leaf surface (*B. media* having always much shorter and relatively broader leaves almost glabrous underneath, a perianth which has a much shorter indumentum, and the limb of which is soon glabrous). The style is glabrous, and the spike much shorter and thicker. The two species are entirely distinct.

Banksia Benthiana C. A. Gardn. sp. nov.

§*Cyrtostylis* Benth.

Frutex erectus, usque 4 m. altus, ramis erectis, ramulis brevibus, patentibus, cano-tomentosis.

Folia erecta, rigida, clongato-linearia, usque 19 cm. longa et 6-7 mm. lata, utrinque glabra, subconcolorata, apice breviter acuta, sursum ultra medium remote dentata, dentibus acutis, deltoideis, sinibus costa media parallelis, in

sicco utrinque luteo-viridia, pagina superiore enervia, laevia, subnitidula, subtus simulate glabra et haud nitidula et lacunis albidotomentosis praeditis, tantum sub lente conspicue parce punctata, marginibus crassa in petiolo brevi sensim attenuata, costa media supra prominula immersa, subtus crassa.

Spicae densae ramulorum terminantibus erectae, cylindricae, 7-9 cm. longae, usque 6 cm. latae, folia pauca obvallata; bractee pubescentes, patulae, rufo-barbatae.

Perianthium aurantiacum, 2 cm. longum, apresse flavido-sericeum, laminae lineari-lanceolatae, 5 mm. longae, Stylus rigidus, rectus, demum sursum leviter curvatus perianthio leviter longior; stigma 4 mm. longa, stylo glabro haud crassior sed basi constricta ab eo distinctum continuum attenuatum, laeve.

Folliculi parvi, transversi 12 mm. lati depressi tomentosi, perianthiis marcescentibus obtagentibus.

Hab. in distr. Austin ab Dalwallinu ad lacum Monger, attingit et prope oppidulum Wilroy, in arenoso glareosis, fl. m. Decembri-Januario, prope Wubin Gardner 12097; Wilroy Gardner 12075 (TYPUS).

The species is related to *B. Elderiana* F. Muell. et Tate, but can be distinguished by the vesture of the perianth, as well as by the longer erect flowering spikes, and the narrower sulcate stigmatic cone. It is also a larger shrub.

Dryandra cynaroides C. A. Gardn. sp. nov.

§*Eudryandra* Meissn.

Frutex erectus, 1-1.3 m. altus, sparse ramosus, rami erecti, dense villosi; rami juveniles inter folia squamis lanceolatis tectis. Folia subverticillata, lineari-lanceolata in circuitu, in petiolum longum angustata, apice pungentia, subpinnatifida; lobis remotis et lanceolato-triangularibus, erecto-patentibus, pungentibus, marginibus recurvis, sinubus latis et ad costam mediam parallelis; supra glabra laeviaque, nervis prominentibus, subtus albo-tomentosis, costa media prominenti.

Capitula sessilia, terminalia, solitaria, saepe ramulis lateralis abbreviata terminantia, foliis floralibus obvallatis; involucria pernagna usque 3 cm. expansa; bractee numerosissimae, exteriores lineari-filiformes, interiores setaceae, plumosae, ciliatae, exterioribus longiores, omnes apicibus plumosae.

Perianthium supra basin glabrum, turgidum et dense sericeo-tomentosum, segmentis fere medium cohaerentia, sursum breviter tomentosa, deinde glabra, laminae profunde sulcatae, glabrae, angustae; stylus perianthio vix excedens, rectus, glaber; cylindrico-stigmatico vix latiore terminatus.

Hab. in distr. Avon Pingelly orientalem versus, in arenosis lateritis, fl. m. Novem. Gardner 14255 (TYPUS).

The affinity is with *D. erythrocephala* C. A. Gardn., from which it differs in the longer perianth 5.5 cm long, the much shorter broadly lobed leaves with recurved (not revolute) margins, and the elegantly ciliate bracts and glabrous style, etc. The flowers are yellow.

Dryandra subpinnatifida C. A. Gardn. sp. nov.

§*Eudryandra* Meissn.

Fruticosa 1.5 m. alta, crebre virgato-ramosa, ramis erectis, glabra, insuper pluriramosa, ramulis brevibus, patentibus, conferte foliosis;

folia linearia, usque 23 cm. longa, infra media spinoso-pinnatifida, rhachi vix 1 mm. lata, lobis patentibus, anguste-triangularibus vel linearibus, spinescentibus, sinubus rectangulariter dispositis, sursum linearia, integra (inusitate sparse lobata) lobis acutis, 4 mm. lata, supra glabra et laevia, costa media impressa, subtus niveo-albo tomentosa, marginibus recurvis, costa media prominentibus.

Capitula terminantia et praecipue copios ramulos laterales florentibus foliis numerosis obvallatis capitula manifeste excedentibus; involucrium turbinatum cum bracteis numerosissimis quorum exteriores foliolatis, interiores lanceolato-linearibus, acuminatis, omnes apicibus patulae et glabrae.

Perianthium circiter 3 cm. longum, inferius tomentosum ipso basin costatum glabrum, sursum sericeo-villosum, limbus obtusus, plumosus; stylus glaber, perianthium excedens, rigidus, cylindrico-stigmatico anguste conico.

Crescit in distr. Stirling, Popanyiuning occidentalem versus in collibus glareosis, fl. m. Septem. F. Lullfitz (TYPUS).

The affinity of this species is with *D. squarrosa* R. Br. from which it differs in the much larger perianth and entirely different foliage which has no similarity to any other species of the genus. The flower-heads of *D. squarrosa* are described as being axillary; those of *D. subpinnatifida* are terminal.

Dryandra foliosissima C. A. Gardn. sp. nov.

§*Eudryandra* Meissn.

Frutex erectus, usque 2 m. altus, dense ramosissimus, ramis ramulisque brevibus, patentibus. Folia densa, patentia vel recurva, usque 23 cm. longa, linearia, marginibus recurvis, pinnatifida, acuta, lobis brevibus, remotis, deltoideis, patentibus, mucronulatis, breve-dcurrentibus, 2-3 mm. longa, vix 3 mm. lata, sinubus latis, costa media parallelis, supra viridia et glabra, costa media prominula immersa, subtus costato-reticulata, sordide albo-tomentosis.

Capitula ramos et ramulos laterales copiosos terminantes expansa ad 4.5 cm. diam., foliis numerosissimis capitula longe superantibus; involucri turbinati, bractee exteriores lineari-subulatae, appressae, interiores latiores et rufo-tomentosae, omnes acuminatae et erectae.

Perianthium circ. 2.5 cm. longum, ad basin costatum sericeo-hirsutum, supra dense tomentoso-lanosum, sursum (unguibus) sparse-pilosum, limbo angustissimo extus apicem versus sericeo-barbato. Stylus glaber, perianthium paulum excedens, cylindrico-stigmatico non latiore terminatus. Folliculis obovoideis, dense rufo-tomentosis vix compressis, 1.4 cm. longis 7-8 mm. latis.

Hab. in distr. Eyre in saxosis in fruticetis, summo montem Desmond prope Ravensthorpe, in fruticetis densis, fl. m. Junio et Julio, Gardner 12386 (TYPUS).

This species has a close affinity with *D. mucronulata*, R. Br., with which it has been confused. It agrees in many respects with the description given by Bentham in the Flora Australiensis, but there are several small, but important differences.

D. mucronulata has flat leaves which are divided almost to the midrib, the lobes being triangular and acute or finely mucronate, and the sinuses are acute. The inner bracts are

obtuse and mucronate. In *D. foliosissima*, which apparently has the same habit as *D. mucronulata*, the sinuses are very broad and parallel to the midrib, the leaves very much longer, the margins strongly recurved, and the teeth much smaller. The bracts are all acute or acuminate. It appears to be restricted to the vicinity of Mount Desmond, whereas *D. mucronulata* would appear to be restricted to the vicinity of King George's Sound and the Stirling Range. *D. foliosissima* appears to be still more closely related to *D. squarrosa* R. Br., of which I have not seen specimens. The fragment in the Melbourne Herbarium doubtfully referred to as *D. squarrosa* by Bentham is *D. polycephala*. From the description given of *D. squarrosa*, the involucre would appear to be very different from those of *D. foliosissima*.

Dryandra subulata, C. A. Gardn. sp. nov.

§*Acerodontae* D.C.

Fruticulus humilis 30-35 cm. altus, ramis stricte ascendentibus, juvenilibus tomentosus vetulis glabratis; folia erecta, anguste-lineariter, plerumque 25-30 cm. longa, 1.5-2 mm. lata, integra, margine crasso arcte revoluta, in petiolum breviter attenuata (ipso basin subdilatatum) longiuscule mucronato-spinescentia juvenilia sparse sericeo-puberula, adulta demum glabra, subtus bisulcata, sericeo-tomentosa.

Capitula subsessilis, ramos et praecipue ramulos laterales copioso terminantia, expansa usque 2.5 cm., foliis numerosis capitula multo superantibus obvallata; involucri late turbinati; bractee numerosissimae, exteriores lineari subulatae, usque 5-6 cm. longae, basi dilatatae, viscidulae, interiores breviores, omnes rectis et apicibus subulatae.

Perianthium ca. 2 cm. longum, basin brevem glabrum, sursum tomentoso-villosum, limbum glabrum, tubum sursum attenuatum et glabrum; stylus rectus glaber, perianthium non excedens; cylindrico-stigmatico atro-fusco, leviter sulcato.

Hab. in distr. Irwin prope flumen Hill, in fruticetis apertis in arenoso-glareosis, fl. m. Septem. *Gardner* 12175 (TYPUS) etiam locis eisdem, A. J. Gray.

This species differs from the others of this Section in habit, in the exceptionally long entire linear leaves none of which closely surround the flower-heads, the heads being surrounded by external subulate bracts which are almost three times longer than the involucre proper.

Dryandra arborea C. A. Gardn. sp. nov.

§*Eudryandra* Meissn.

Arbor usque 5 m. alta, ramis patentibus, trunco usque 30 cm. diametri, cortice nigra; ramulis brevibus, ad apicem solum foliolatis; folia petiolata, oblanceolata, plana, subpinnatifida, basi cuneata, lobis patentibus, triangularibus, decurrentibus, pungentibus, subtus reticulatis, glaucis, subalveolatis, sinibus acutis; capitulis terminalibus, involucre floribus multo brevioribus, squamis (bractee) glabriusculis ciliatis, lanceolatis, acutis, demum glabrescentibus.

Perianthium stylum subaequantum, unguibus dense tomentosum; stylus breviter exsertus, basi lanuginosus; stigmatico cylindrico obtuso.

Folliculi oblique ovati, biconvexi, glabriusculi demum glabri, reticulato-striati, margine acuto compressi.

Hab. in distr. Coolgardie in rupestribus "Iron Knob", collibus Koolyanobbing, fl. m. Oct. *Gardner* 12217 Oct. 1959 (TYPUS).

This species was previously collected by Young between Ularring and Mount Churchman, and also by John Forrest, and was named *D. armata* by Mueller, although it has very little in common with the latter, apart from the woolly base of the style. The involucral bracts are quite distinct from those of any other related species, and the floral leaves are not obvallate. It is also the only arborescent species of the genus known to me. *D. armata* R. Br. (*sensu stricto*) is confined to the south coastal areas, and may be easily distinguished by its hirsute branchlets, long hairy and long-ciliate bracts, and in addition these latter always have nigrescent-tomentose apices, a characteristic confined to this and the closely related *D. Purdicana* Diels and *D. Gilbertii* S. Moore.

PAPILIONACEAE

Oxylobium rigidum C. A. Gardn. sp. nov.

§*Podolobium*

Frutex humilis, usque 30 cm. altus, glaber; ramis erectis; ramulis angulosis. Folia opposita, breviter petiolata, oblongo-lanceolata, plana, rigida, costa media prominens, basi leviter sed conspicue cordata, apice acuta, subpungentia, glauca; stipulae setosae, nigrae, petiolis longiores. Flores pauci ad ramulorum apices in racemos pedunculati, verticillato-dispositae, pedicelli circ. 1.5 mm. longi; bracteolae deciduae. Calyx coriaceus, circ. 6 mm. longus, campanulato-cupuliformis, glaberrimus, glaucis, lobi 3 inferiores ovato-lanceolati, circ. 2.5 mm. longi, tubo breviores, lobis superioribus approximati, altius connati, truncati, marginibus ciliolati; vexillum calyce haud duplo longior cordato-emarginatum, alae vexillo paulo breviores, obtusissimae; carina alii multo longior; ovarium longe stipitatum; villosum 4-ovulatum.

Hab. in distr. Eyre montem Madden septentrionalem versus, in glareosis fruticetis, fl. m. Oct. *Gardner* 13635 (TYPUS).

The affinity of this species is with *O. racemosum* (Turcz.) C. A. Gardn., from which it differs in the usually acute leaves, the shorter pedicels, upper ciliolate calyx-lobes silky ovary, and number of ovules, and the much more rigid glaucous foliage with scarcely evident venation. *Oxylobium racemosum* is a tall shrub of 1-2 metres in height, with longer racemes.

Gastrolobium appressum C. A. Gardn. sp. nov.

Series *Racemosae* Benth.

Fruticulus 20-30 cm. altus, ramis subflexuosis, glabris, ramulis brevibus, dense foliolatis, appresse-pubescentibus, demum glabratis. Folia ternata, brevissime petiolata vel subsessilia, rigida, erecta, arcte appressa, coriacea, ovato-lanceolata, acuta, leviter concava, basi leviter sed conspicue rotundata, 6-7 mm. longa, manifeste reticulata, glabra, supra reticulata, subtus pallida; stipulae nullae. Flores ad ramulorum apices in racemulos pauciflorae, positae, pedicelli graciles, subpatentim sericeo-pubescenti, plerumque 2 mm. longi; calyx glaberrimus, 6 mm. longus, lobi 3 inferiores lanceolati acuminati,

tubum adaequantes; corolla calyce fere duplo longior, praeter carina purpurea, aurantiaco-lutea, alae carinaeque vexillo breviores, aequilongae; ovarium villosum distincte stipitatum; legumen ignotum.

Hab. in distr. Irwin prope Gunyidi, in arenosis glareosis in fruticetis, fl. m. Septem. *Gardner* 12745 (TYPUS); prope Watheroo in locis similibus; in distr. Avon, Dallwallinu 25 km. occidentalem versus in arenosis saxosis.

The affinity is with *G. hamulosum* Meissn., but the branches are more divaricate, and the leaves appressed to the branchlets. The apparent complete absence of stipules is another feature distinguishing this species.

MYRTACEAE

Eucalyptus cupularis C. A. Gardn. sp. nov.

Arbor usque 10 m. alta, cortice alba, basin versus rimosa, sursum leviter oblecta; ramulis leviter angulatis. Folia alterna, petiolata, rigida, crassiuscula, concoloria, opaca, in petiolum 2-2.5 cm. longum attenuata; lamina anguste lanceolata vel lanceolata, viridia, apice acuta vel acuminata, falcata, 16-18 cm. longa, costa media supra elevata et canaliculata, nervis lateralibus patentibus, anastomosis, nervus intramarginalibus ab margine distinctis.

Pedunculi axillari, erecti, validi, subtereti, sursum incrassati, 8-10 mm. longi, umbellam 5-7 florum gerentes; flores sessiles; alabastrum juvenilibus bracteati.

Hypanthium cylindro-cupulatum, 5-6 mm. longum, laeve, basi contractum, 2-costatum vel -angulatum; 6 mm. longum; operculum late ovoideo-hemisphaericum, umbonatum, hypanthio brevior (3.5 mm. longum). Stamina adulta non visa, filamenta in alabastris flexuosis et incurva.

Fructus cylindrico-cupulatus, lignosus, diametro transversali 7-8 mm., sed tantum circa 8 mm. longus, margine crasso, discus elevatus, annulatus; capsula 4-5-locularis, valvis deltoideis, conspicue et rigide exsertis.

Hab. in distr. Ord, prope oppidum Hall's Creek, in colliculis lapidosis schistosis occidentalem versus *Gardner* 10217 (TYPUS) et in locis similibus *R. A. Perry* 3180; in montibus lapidosis in Lat. 18° 45' S. Boundary Survey, *S. J. Stokes* sine n.

In the absence of flowers it is difficult to assign the systematic position of this attractive tree, and its affinities must remain obscure. It certainly has not been previously described.

Eucalyptus jucunda C. A. Gardn. sp. nov.

Frutex elatus vel arbor parva, usque 7 m. alta, ramulis juvenilibus angulosis, brunneo-corticatis; folia alterna, distantia, viridiglaucoscentia, oblongo vel anguste-lanceolata, falcata, in petiolum conspicuum circ. 1.2 cm. longum attenuatum, apice acuminata vel acuta, sine petiolo 6- usque 9 cm. longa, costa media prominula, nervis lateralibus supra vix conspicuis, subtus elevatis et conspicue obliquo divergentibus, laxe anastomosis, vena intramarginalia ab margine remota.

Pedunculi erecti, subtereti vel tantum obscure vel leviter angulosi, nunquam complanati, axillares sed plerique e ramulorum parti inferiorum foliorum jam destitutam enascentes, 1-1.2 cm. longi. Flores plerumque sat numerosos 6-12, manifeste pedicellatos gerentes; pedicelli subteretes, circ. 6 mm. longi, hypanthio vix breviores.

Hypanthium anguste-campanulatum, sub flore expanso circ. 6 mm. longum, basi attenuatum; stamina flavida, filamentis in alabastris flexuosa, inflexa, antherae oblongae, loculis parallelis; operculum late conicum vel ovoideum, acutum vel obtusum, 4 mm. longum.

Fructus ovoideo-globosus (diametro transversali 1.3 cm. metiens) sed tantum circ. 1.5-1.7 cm. longus, fere laevis ad marginem orificii 3.5 mm. diametro; capsula trilocularis, valvis profunde inclusis et apparenter tribus.

Hab. in distr. Irwin septentrionalem valde divulgatus in arenosis crescens; prope flumen Murchison in arenosis lutosus in fruticetis, *Gardner*; prope flumen Greenough juxta pontem mullewensem in fruticetis, fl. m. Febr. *R. D. Royce* 1122; prope Tenindewa, *G. H. Burvill*; haud procul a Yuna, *G. E. Brockway*; inter Mullewa et flumen Greenough, *J. Reeves* 70; in arenosis fruticetis prope flumen Greenough. fl. 6. Januario 1959, *Gardner* 12066 (TYPUS).

Belonging to the *Macrantherae*, this species does not appear to have any close affinities.

Blakely has named a variety *globosa* of *Eucalyptus eudesmioides* F. Muell. which I have not seen, but the species named here has no affinities with the *Eudesmieae*.

Regelia megacephala C. A. Gardn. sp. nov.

Fruticosum glabrum usque 3.5 m. altum, rami erecti, ramuli abbreviati, dense foliati. Folia opposita, quadrifariam decussata, erecta, vel leviter patentia, obovato-orbicularia, plana vel concava, sessilis, basi subcordata, glaucoviridia, subtus prominenter 5-nervia, breviter acuta vel mucronata.

Capitula globosa, ad ramorum valde abbreviatum terminantia, magna, rhachis albo sericeo-villosa; flores purpureae, pulchrae. Calycis tubus turbinatus, 2.5-3 mm. longus, albo-pubescentis; sepala lanceolata, acuta, trinervia, calycis tubo longiores, villosa; petala alba subscariosa, fere oblonga, truncata erecta glabrique, marginibus hyalina, ciliata, circa 3.5 mm. longa; phalangium circ. 2-andrum, circ. 7 mm. longum, glabrum, antherae luteae.

Capitulae fructiferae ovoideo-globosae vel ovoideae, usque 3 cm. longae et 2.3 cm. latae. Calyces fructiferae plusminusve concretae, truncatae, late hemisphaerico-urceolatae, 1-1.2 cm. latae; calyx fructifer immersus late obovoideus, capsulam valde superans, valvis obtusis.

Hab. in distr. Avon prope oppidum Coomberdale, in collis saxosis quartzosis, fl. m. Decem. *Gardner* 12167 (TYPUS).

Affinity with *R. ciliata* Schau., differing principally in the glabrous branches, the erect and appressed obovate-orbicular larger leaves, the relatively longer calyx-lobes, and the much larger fruiting heads. The shrub is also much larger and erectly branched.

R. velutina (Turcz.) C. A. Gardn. comb. nov.

Beaufortia velutina, Turcz. in Bull. Phys. Math. Acad. Petersb. x, 346 (1852).

R. cymbifolia (Diels) C. A. Gardn. comb. nov.

Beaufortia ? *cymbifolia* Diels in Engler's Bot. Jahrb. xxxv, 431 (1904).

Diels did not see normal ♀ flowers of this plant. It proves to be a *Regelia*, and I have collected a topotype from the original locality:—prope Tambellup in fruticetis arenosis, fl. m. Oct. *Gardner* n. 13885.

Eremaea purpurea C. A. Gardn. sp. nov.

Frutex rigidus circiter 30 cm. altus, ramis crassis, erectis densissime foliolatis, ramulis ultimis exceptis glaberrimus. Folia patentia, oblonga, crassa, supra concava, 2-2.5 mm. longa, obtusa, glaberrima, viridia, tantum leviter glanduloso-punctata. Flores purpureae, pulchrae, solitarii ad ramulorum apices sessiles, bracteis parvis, ovatis, caducis. Calycis tubus campanulato-turbinatus, argenteo-villosus, vix 3.5 mm. longus, lobi deltoidei subacuti, trinerves, tubo breviores glabri; petala purpurca, obovato-orbicularia, concava, obtusissima, erecta, glabra, circ. 4 mm. longa, marginibus subscariosa, basin versus attenuata; phalagium 15-andrum, filamenta purpurea, antherae flavae.

Calyx fructifer late hemisphaerico-cupulatus, capsula non superans, circ. 6 mm. longus, 9 mm. latus; semina erecta, inaequaliter tetragonoclavata, angulis membrana hyalina frimbriata alatis.

Hab. in distr. Darling prope Culalla, in arenosis humidis, fl. m. Decem. *Gardner* (TYPUS); prope Muchea in arenosis depressis, *H. Steedman*.

The affinity of this species is with *E. ebracteata* F. Muell., from which it differs in the much smaller and broader glabrous leaves, the small purple flowers and the relatively smaller calyx-lobes. The style is short and glabrous.

Melaleuca conothamnoides C. A. Gardn. sp. nov.

§*Capitatae* Benth.

Frutex multiramulus circ. 1 m. altus, ramis erecto-patentibus, ramulis erectis, omnino glaberrimus; folia alterna vel sparsa, breviter petiolata, arcuato-patentia, oblongo-lanceolata vel oblonga, obtusa vel apicibus rigide mucronata, basi contracta vel breviter attenuata, glauca, rigida, plana vel leviter concava, 3-5-nervia. Capitula globosa vel ovoidea, ad ramorum partem superiorem terminantia, breviter pedunculata, rhachis breviter scriceo-tomentosa; flores mediocres, purpureae, calycis tubus late ovoideus, puberulus; calycis lobis breviter semiorbicularis, marginibus tenuiter hyalinis; petala ovata, purpurea, subscariosa, concava, obtusissima, patentia, glabra, marginibus integra; phalangium glabrum, purpureum circ. 13-andrum, antherae breviae, luteae. Ovarium triloculatum. Capitulae fructiferae globosae vel brevi-cylindricae vel ovoideae, 7-12 mm. longae et 9 mm. latae. Calyces fructiferae ovoideae, lobis deciduis; capsulam valde superans, cir. 4 mm. longae et 3 mm. latae.

Hab. in distr. Irwin inter Caron et Latham, *Blackall* 765; *Gardner* 2690; inter Morawa et Koorda, *Blackall* 3469 distr. Avon: Wongan Hills, *R. D. Royce* 2192; *Baldid*, *Gardner*; prope Wyalkatchem, *J. W. Green* 835; *Blackall*; prope Tammin 5 km. occidentalem versus in arenosis glareosis in planietis, *Gardner* 1122, Novem. 1920 (TYPUS).

Austin distr. a form from Boolardy, collected by *A. B. Cashmore* has larger flower-heads and somewhat longer leaves.

The affinity of this species is with *M. cordata* Turcz., differing mainly in the shape of the leaves which are never cordate at the base, the almost petaloid calyx-lobes, and the more numerous filaments. Both species are often found in the same area under the same ecological conditions.

Leptospermum sericeum Labill.

Leptospermum sericeum Labill. Nov. Holl. Pl. Sp. XI p. 9, pl. 147 (1806).

In September 1962, I collected at Cape Le Grand specimens of a *Leptospermum* in flower (*Gardner* 14117) which have been matched with the type in the Florence Herbarium.

Since 1867, when Bentham confused this species with *Kunzea sericea*, the species has been deleted from the Flora of Western Australia. Brown and Baxter both collected *Leptospermum sericeum* in fruit, and, since the specimens were not in flower, they were placed by Bentham under *Kunzea sericea*.

The recent collection of this attractive species proves that *L. sericeum* is the common plant of the islands of the Recherche Archipelago, since *Kunzea sericea* does not occur within 160 km. of the coast. Labillardiere's designation "Capite van Diemen" for the plant is due to an error.

Wehlia aurea C. A. Gardn. sp. nov.

Frutex densus multiramulus, usque 40 cm. altus, omnino glaber; ramis erectis, virgatis, ramulis ultimis brevibus, denissime foliatis; folia confertissima, sparse, arcte imbricata, erecto-appressa, subsessilia, crassiuscula, elliptico-obovata, laevia, supra leviter concava, subtus convexa, crebre nigro-punctata, valde obtusa, 2 mm. longa.

Flores in ramorum apicibus denissime spicatae, brevissime pedicellatae, aureo-luteae, circiter 5-6 mm. diam.; bracteae scariosae, calycis tubus involventes, caducae, orbiculares, medio uncostatae, marginibus hyalinae. Calycis tubus hemisphaericus, vix 2 mm. longus, leviter compressus, lobi rotundati, tubo subaequalibus, glabri, marginibus scariosis, integri; petala orbicularia, aureo-lutea, marginibus integra. Stamina circ. 35-40; ovarium globosum; ovula 2, ad apicem placenta a basin collateraliter affixa; stylus elongatus.

Hab. in distr. Austin prope Pindar, in arenosis lutosis, fl. m. Oct. *Gardner* 7778 (TYPUS), etiam inter Perenjori et Dalwallinu *Blackall*, ad lacum Monger extendit; prope Canna in fruticetis arenosis, *Gardner* 2688.

The species is distinct in its minute appressed broadly obovate smooth leaves, in the whole plant quite glabrous, and in the leafy spikes of yellow flowers.

Wehlia grandiflora C. A. Gardn. sp. nov.

Frutex 1.2 m. altus, ramis patentibus, omnino glabra. Folia petiolata, patentia, 5-6 mm. longa, cuneato-oblonga, subtriquetra, valde carinata, supra convexa, in apicem mucronatum recurva terminantia; flores purpureae, axillariibus solitarii vel bini, brevipedunculata; bractae parvae; bracteolae scariosae, cordatae, arcte imbricatae; longitudinaliter striatae, purpureae, marginibus albis scariosis. Calycis tubus campanulatus, vel hemisphaericus, minute foveolato-punctatus; sepalis suborbicularibus, roseis, trinervis, lobis, hyalinis, petalis subdimidio. Petala roseo-purpurea, late obovata (apicibus subacuta), purpureo-striata; stamina numerosa (circi. 35-40) petala excedentia; filamentis purpureis; antherae oblongo-ellipticae, recurvae, rimis longitudinaliter dehiscentibus, glandula cornuta, dorsalia, prominens, incurva; stylus

flexuosus, compressus, staminibus longioribus, in depressis ovarii insertus; ovulis 2, collateraliter affixa.

Hab. in distr. Austin prope Menzies 25 km. meridionalem versus, in arenosis dunosis, fl. m. Novem-Decem. *Gardner* 13879 (TYPUS).

Distinguished from all other species of the genus in the larger widely spreading longer leaves, the larger flowers and distinctly cordate bracteoles and long exserted style. Its closest affinity is *W. staminosa* F. Muell., which occurs on stony hills between Mount Hale, Meekatharra and Lake Carnegie.

Darwinia Masonii C. A. Gardn. sp. nov.

§*Genetylis* (D.C.) Benth.

Frutex erectus, 1.5-2 m. altus vel ultra, ramis erecto-patentibus, cortice albo-griseo. Folia dense conferta, basin versus attenuata et breviter petiolata, subtriquetra, pallide viridia, saepe 1 cm. longa, apice breviter acuta. Capitulis subsessilibus, ramulis terminantibus; involucrium hemisphaericum; bracteae numerosissimae, pluriseriatae, exteriores oblongo-lanceolatae interiores ovato-contractae, rubrae, usque 15 mm. longae; bracteolis oblongo-lanceolatis, valde concavis vel cymbiformis, submembranaeis, mucronulatis, 5 mm. longis. Calycis tubus circ. 4 mm. longus, durus, manifeste 10-costatus, inferiori turbinatus, lobis minutis; petala ovato-lanceolata, alba, circ. 3 mm. longa, obtusa, glabra; stamina 10, breviter, glabra; staminodia filamentis similia sed angustiora, aequilonga; stylus 10-11 mm. longus, sursum sparse et breviter pilosus, pilis patentibus.

Hab. in distr. Austin prope montem Gibson, in fruticetis in glareosis, fl. m. Aug. *D. Mason* (TYPUS).

This species is closely related to *D. leiostyla* (Turcz.) Domin, notwithstanding the totally different climatic and edaphic requirements. The involucral bracts are much like those of *D. leiostyla*, and in both species the calyx lobes are minute. The leaves however, are narrower and subtriquetrous, and the flower-heads smaller.

VERBENACEAE

Lachnostachys bracteosa C. A. Gardn. sp. nov.

Frutex nanus, circ. 20-30 cm. altus, ramis numerosis, erecto-patentibus, ramulis erectis. Folia opposita, decussata, linearia, sessilia et valde decurrentia, obtusa, supra glauca et ± transverse bullata, olivacea et sparse tomentosa, demum glabrescentia, usque 1 cm. longa, 1.5 mm. lata, marginibus arcte revoluta, subtus (costa media) albo-tomentosa.

Spicae terminales, cylindricae, dense albo-tomentosae, sessiles vel subsessiles; bracteae rigidae, lanceolatae, cymbiformae, petiolatae, solitariae vel tripliciter cum uno petiolo, marginibus longe tomentosae, dorso dense et longe brunneo-tomentosae, acutae, petiolae persistentibus. Calyx obovoideus, breviter pedicellatus, extra dense lanato-plumosus, sordide albus, lobis lanceolatis, acutis, tubus et lobis intus glabris. Corollae tubus turbinatus, calyce subaequilongus, tubo truncato pilis longibus intus prope basin ortis, exceptis glabro. Stamina 6-7 (rarius ad 2 reducta) filamenta elongata ad margine tubum affixa, dilute-violacea, basin

versus dilatata; antheris dithecis, thecis rimis longitudinalibus dehiscentibus. Ovarium ovoid-eum vel globosum, dimidio superiore sericeo-pilosum; stigmato capitato.

Hab. in distr. Eyre prope lacum King occidentalem versus in fruticetis in arenoso-lutosis, fl. m. Oct. *Gardner* 13636 (TYPUS).

What appears to be a peculiarity in this species is to be seen in the cymbiform bracts which have a slender but rigid petiole. These are either single, or three-branched, each bract having a flower in its axil. These persistent petioles, simple or trifid, persist after the flowers have fallen, giving to the inflorescence a distinctive appearance not seen in any other species of *Lachnostachys*. The presence of the petioles of these bracts indicate that the inflorescence is not a spike, but a spike-like panicle. Whether or not this condition is found in other species (except *L. coolgardiensis* S. Moore, its closest affinity) remains to be seen. This, and the much-branched stems which are comparatively slender and more woody than in other species are another distinctive feature of the plant.

Newcastlia chrysophylla C. A. Gardn. sp. nov.

Frutex circ. 4 m. altus, ramis erectis, dense tomentosus, ramulis erectis, aureo-tomentosis. Folia alterna, sparsa vel rare opposita, obovata usque late-obovata, petiolata, basin attenuata, cum petiolo 14 mm.-3.7 cm. longa, 5 mm. ad 1.0 cm. lata, crassa, plana vel marginibus leviter recurva, supra medium crasse crenulato-dentata, obtusa, supra olivacea et scabrida, subtus dense aureo lanato-plumoso-tomentosa.

Spicae terminales 4-5 cm. longae paniculae dispositae, breviter pedunculatae, bracteae ignotae. Calyx globosus, 3-4 mm. longus, extus dense aureo-plumosus, lobis deltoideis, acutiusculis, intus glabris. Corollae tubus obovoideus, calyci subaequilongis, lobis late-oblongis, obtusis, albis, glabris; filamenta breviora, infra medium tubum adnata, superne libera, quam antherae multo longiora. Ovarium globosum, supra medium dense pilosum, 2-loculatum, loculis ? 1-ovulatis, ovulo unico tantum maturascenti; stylus brevissimus (2 mm. longus), sparse pilosus, breviter bilobus.

Crescit in distr. Austin flumen Murchison 40 km. septentrionalem versus, in arenosis lutosis in fruticetis, fl. m. Decem. *Gardner* 12054 (TYPUS).

Only known from this locality, and apparently rare, this remarkable shrub is particularly attractive by reason of the dense golden tomentum of the undersurface of the leaves which contrasts with the dark olivaceous upper surface. The stem is often 7 cm. in diameter, and it is by far the largest species of this genus. The genus is found almost entirely on the desert regions of the continent, and its occurrence almost on the boundary of the South-West Province is remarkable. Its affinities are with *N. Dixonii* F. Muell. et Tate and *N. chrysotricha* F. Muell. differing from both in the leaves which are petiolate, and of different size and shape, having the golden calyces of *N. chrysotricha* which has linear leaves with revolute margins, and from *N. Dixonii* in the shape of the leaves and the spicate inflorescence.

The species is worthy of cultivation.

Pityrodia spectabilis C. A. Gardn. sp. nov.

§*Eupityrodia* E. Pritzel

Suffrutex diffusus vel erectus, usque 15 cm. altus, sparse ramosus omnino dense lanatus, ramulis crassus, internodiis brevibus. Folia opposita, oblonga vel oblongo-obovata, sessiles, sed non decurrentes, plana, crassa sed mollis, marginibus integra, novellis dense lanata, vetulis sparsim floccosa, usque 5.3 cm. longa, obtusa, basi attenuata.

Flores numerosae in axillis superioribus dispositae, pedicellatae, magnae, pedicelli 3-4 mm. longi. Calyx fere ad basin divisus, 1.5 cm. longus, lobis lanceolato-obovatis, obtusis, dorso plumosis. Corolla coccinea vel aurantiaca, 3 cm. longa, ad basin tubi angusta, subito campanulato-dilatata, extus glabra, intus supra basin dense tomentoso-sericea, supra medium sparse et breviter pilosa; lobis brevibus, patentibus, subaequalibus, semiorbicularibus, obtusis, marginibus denticulatis. Stamina exserta, filamentis infra medium tubi insertis, antherae brevissime appendiculatae. Ovarium dense sericeo-pilosum; stylus glaber, corolla excedens.

Hab. in distr. Irwin prope Buntine in arenosis lutosis, fl. m. Decem. *Gardner* 12023 (TYPUS); prope Canna, *D. H. Perry*, fl. m. Oct.

The species belongs to the Section *Eupityrodia* E. Pritzel with affinity to *P. axillaris* (Endl.) Druce differing in the much larger calyx and corolla—almost twice as long, the calyx-lobes being also much broader and thicker, the almost equal corolla-lobes which are denticulate and not entire, the much exserted stamens, and the dark or violet prominent striations of the corolla. It is by far the largest flowered member of the genus.

LABIATAE

Prostanthera scutata C. A. Gardn. sp. nov.

§*Euprostanthera*

Frutex nanus usque 20 cm. altus, ramosissimus, ramis erecto-patentibus, vel diffusis, crebro foliatus. Folia opposita, in petiolis abbreviatis attenuata, apice obtusa, basin versus attenuatus, mollis, plana, integra undique cano-tomentosa, uninervia, 8-15 mm. longa.

Flores in axillis superioribus dispositae, solitariae, breviter pedicellatae; bracteolae 2, lineari-spathulatae, 2.5 mm. longae. Calyx 1.2 cm. longus, venis reticulatis, labio supero aucto, late ovatus, breviter 3-lobatus; labio infero integro, superiore duplo brevior. Corolla pallide cocerulea, extus undique breviter pilosa, intus glabra, circ. 15 mm. longa, tubo cylindrico supra ovarium leviter constricta, deinde ampliata, lobis suborbicularibus, obtusis, 2 superioribus obovatis alte connatis, inferioribus obovatis, lobo mediano emarginato, lateralibus ovato-oblongis, retusis, stamina inclusa, antheris omnibus appendiculatis. Calyx fructifer amplus, obtusus; labio supero magno 1.5-1.7 cm. longo, 1.5 cm. lato, rotundo, eleganter nervoso, breviter et obtuse 3-lobato; labio infero ovato, superiore duplo brevior, obtuso.

Hab. in distr. Irwin prope flumen Hutt, in arenosis lutosis, fl. m. Decembri, *Gardner* 14266, (TYPUS) etiam prope oppidum Wilroy, in fruticetis in arenosis fl. m. Novem. *Gardner* s.n.

GOODENIACEAE

Leschenaultia pulvinaris C. A. Gardn. sp. nov.

§*Euleschenaultia* Benth.

Suffrutex humilis, dense ramosus ramis ramulisque prostratis, dense pulvinaris, usque 30 cm. diam.

Folia dense-conferta, rigida, lineari-subulata, apice longiuscule mucronata, dense and breviter hirsuta, 6-7 mm. longa et 0.4 mm. lata.

Flores in axillis superioribus solitarii; ovarium lineare strictum vel leviter curvatum, 5.5 mm. longum, glabrum, calycis-lobi subulati acuminati, 3.5-4 mm. longi, scabride-hispidissimi. Corolla coerulea, tubus circ. 6 mm. longus, extus glaber, intus tota extensione sparse et breviter pilosus, lobi tubo subaequilongi, 2.3-3 mm. longi acuminati, omnes subaequaliter latiuscule alati, in flore patentibus, alis latis, rotundis, obtusis, obsolete venosis; stamina 3.2 mm. longa, filamenta tenuia. Capsula ignota.

Hab. in distr. Stirling, a Corrigin circ 40km. meridionalem versus, in arenosis, fl. m. Oct. *Gardner* 13620 (TYPUS).

This species belongs to the Section *Euleschenaultia*, with affinity to *L. expansa* R. Br., from which it differs in the dense pulvinate habit, like that of *L. tubiflora* R. Br., and in the subulate hispid foliage and calyx lobes of which there is no counterpart within the genus.

It is known only from the type locality, and it may be in danger of extinction, the total area being less than half a mile in extent, and most of it farming land.

Goodenia sericostachya C. A. Gardn. sp. nov.

§*Monochila* G. Don.

Herba biennis vel forsan perennis usque 35 cm. alta, dense albido-sericeo-tomentosa, caulibus teretibus, simplicibus vel plerumque erecto-ramosis, validis. Folia inferiora subrosulata numerosa, obovato-oblancheolata, basin versus sensim angustata, ima basis paulum dilatata, integra, usque 5 cm. longa et 12 mm. lata, obtusa, plana, crassa sed molliter tomentosa, folia caulina minora, circ. 2 cm. longa, obtusa, basi sessilia, integra.

Scapi elongati, robusti, paullum ramosi, dense villosi; flores sessiles dense conferti in spicam densam, inferne saepe interruptum, superne densiorum efformantes. Calycis tubus obovoidaeus, denissime sericeo-pilosus, calyci lobi oblongo-lanceolati, acuti, ovario subaequilongi. Corolla intense violacei, extus praeter alas glabra dense sericeo-villosa, lobi omnes subaequaliter alati; omnes subaequales digitatim patentibus, acuti; stamina libera; stylus elongatus, breviter et sparse pilosus; indusium dorso breviter pilosum, margine breviter et dense ciliatum. Capsula ellipsoidea, 6 mm. longa, longe lanato-villosa, calycis lobis persistentibus coronata; semina nigra, subrotundata, tenuiter et anguste marginata.

Hab. in distr. Irwin circ. flumen Murchison 45 km. septentrionalem versus in arenoso-lutosis, fl. m. Decem. *Gardner* 12430, 5. Jan. 1960 (TYPUS).

This species is remarkable in that it combines the floral structure of *Goodenia* with the habit and inflorescence of *Verreauxia*. It must be included in the Section *Monochila*, with *G.*

scapigera R. Br. and *G. Watsonii* F. Muell. et Tate, but differs from these in the vestiture of the plant, and from all the species of *Goodenia* in the spicate inflorescence. It is a remarkably attractive plant. In the season of its discovery it was fairly common in the restricted area of its habitat, visits to the same area during the last two or three years have failed to disclose

its presence, even when not in flower. It is probable, that like some other plants, especially *Velleia discophora*, it will not again appear until the country is burned.

The holotypes of the species described in this paper will be deposited in the Western Australian Herbarium.

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